

WHAT IS CLAIMED IS:

1. A method of handling data packets in a series of network switches, said method comprising the steps of:

receiving an incoming data packet at a data port of a first type of switch of said series of network switches;

5 resolving a stack tag from a header of said incoming data packet;

forwarding said incoming data packet to a second type of switch of said series of network switches, on a first stacked connection operating at a first data rate, based on the stack tag;

10 resolving a destination address of said incoming data packet by said first type of switch and modifying the header of said incoming packet; and

forwarding said incoming data packet to another second type switch, on a second stacked connection operating at a second data rate, based on the resolved destination address;

15 modifying said header of said incoming data packet and forwarding said incoming data packet to another first type switch on a third stacked connection operating at said first data rate;

determining an egress port of said another first type switch based on said stack tag and forwarding the incoming data packet to said egress port.

2. A method of handling data packets as recited in claim 1, wherein said step of modifying the header of said incoming packet comprises adding or removing a module header to or from said header to be evaluated by said first and second type switches.

3. A method of handling data packets as recited in claim 1, further comprising the steps of:

resolving a mirroring field of said incoming data packet;

forwarding said incoming data packet to a mirroring port based on said mirroring
5 field.

4. A method of handling data packets as recited in claim 1, wherein said second data rate is four times said first data rate.

5. A method of handling data packets as recited in claim 1, wherein said second data rate is 10 Gigabits and said first data rate is 2.5 Gigabits.

6. A network switch for network communications, said network switch comprising:

a first data port interface, said first data port interface supporting at least one data port transmitting and receiving data at a first data rate;

5 a second data port interface, said second data port interface supporting at least one data port transmitting and receiving data at a second data rate, different from the first data rate;

a memory communicating with said first data port interface and said second data port interface;

10 a memory management unit, said memory management unit for communicating data from said first data port interface and said second data port interface and said memory; and

a communication channel, with the communication channel communicating data and messaging information between said first data port interface, said second data port interface, and said memory management unit,

wherein said first data port interface is configured to communicate with first type switches at said first data rate and said second data port interface is configured to communicate with second type switches at said second data rate and said switch is configured to resolve a stack tag from a header of an incoming data packet and forwards the incoming data packet to one of said first and second type switches based on the resolved stack tag.

7. A network switch as recited in claim 6, wherein said second data rate is four times said first data rate.

8. A network switch as recited in claim 6, wherein said switch is configured to modify said header of said incoming data packet before forwarding the incoming data packet to one of said higher capacity network switches.

9. A network switch in a series of network switches comprising:
means for receiving an incoming data packet at a data port of a first type of switch of said series of network switches;
means for resolving a stack tag from a header of said incoming data packet;
means for forwarding said incoming data packet to a second type of switch of said series of network switches, on a first stacked connection operating at a first data rate, based on the stack tag;

Gigabits and said first data rate is 2.5 Gigabits.